Water Resources Commission
Meeting Minutes of May 11, 2000

Commission Members in Attendance:

Peter Webber	Commissioner, Department of Environmental Management
Lee Corte-Real	Designee, Department of Food and Agriculture
Joe McGinn	Designee, Metropolitan District Commission
Arleen O'Donnell	Designee, Department of Environmental Protection
Mark P. Smith	Designee, Secretary of Environmental Affairs
Joseph E. Pelczarski	Designee, Coastal Zone Management
Mark S. Tisa	Designee, Department of Fish, Wildlife and Environmental Law Enforcement
Francis J. Veale	Public Member
Gary Clayton	Public Member
Bob Zimmerman	Public Member
David Rich	Public Member

Others in Attendance

Steve Garabedian	USGS
Duane LeVangie	DEP
Linda Marler	DEM, Office of Water Resources
Vicki Gartland	DEM, Office of Water Resources
Michele Drury	DEM, Office of Water Resources
John Magenheimer	DEM, Office of Water Resources
Matthew Watsky	Counsel, Dedham-Westwood Water District
Chris Kilbridge	Anderson-Nichols/Goodkind & O"Dea
Lou Wagner	MAS
Lorraine Downey	MWRA
Joan Sozio	Foxborough Water Commission
Warren McKay	Foxborough Water Department
Richard Thibedeau	DEM
Mike Gildesgame	DEM, Office of Water Resources

Agenda Item 1: Executive Director's Report

Smith updated the WRC on the recent court decision regarding the MWRA. The decision reflects the watershed approach and affirms the value of protecting watersheds. The MWRA has spent over $75 million on land acquisition in the Wachusett watershed and has also initiated a $60 million sewering program in the watershed.

This is National Drinking Water Week. There was a ceremony at the statehouse to honor water suppliers. Our commissioner from Mashpee was honored for source protection. The Mashpee Water District and the Town of Mashpee have spent $2 million for land acquisition to protect water supply sources.

The Drought Management Task Force met on April 26th to assess the dry conditions and further discuss the state Drought Management Plan. April was a wet month and therefore pushed back by one month the time when we would experience problems if dry conditions persist.

A work group is being formed to determine the best use of the buildout analyses prepared for the Community Preservation Initiative. This will include basic water resource and environmental planning. The purpose of this work group is not to substitute for the detailed planning required under different permitting and approval processes, but to get communities to start thinking about these issues.

Marler presented current condition report.

- April was a wet month with 150% of normal precipitation. Statewide, this satisfied the water deficit; we are at 102% above normal for this water year. However, there are still some areas where a precipitation deficit exists, particularly central Massachusetts. Worcester County, generally, is still below normal, as are the Connecticut River Valley and western Massachusetts. The Weather Service is expecting above normal temperatures and below normal precipitation through July.
- Ground water levels: Cape Cod and Martha's Vineyard are still below normal.
- Streamflow: The April rains have helped streamflow levels, but because western Massachusetts didn't get as much rain, Berkshire County and the western Connecticut Valley have below normal streamflows. The Easter weekend storms produced peak streamflows which were in the top 10th percentile of record for many rivers in central and eastern Massachusetts.
- Reservoir levels: Reservoirs are either full or where they are supposed to be at this time of year; a few water suppliers report that their reservoirs are overflowing.
- No fire danger report this month, but it is estimated to be low-to-moderate.
- Drought forecast: expecting above normal temperatures and below normal precipitation this summer. La Niña is expected to last for six more months and then we should have near normal conditions. The hurricane season is expected to be heavier than normal. The north Atlantic can expect longer lasting storms that could threaten land areas.

O'Donnell thanked Marler for providing such good information, in all categories. Marler mentioned the special sections running in the Boston Globe on water and commented that DEM had been contacted for information that will be used in this Sunday's article. Marler noted that a DEM website, which will have the current condition reports, is coming on line in the next few weeks. The website address is listed in the current conditions report.

Agenda Item 2: Dedham-Westwood Water District Streamflow gaging

Drury acknowledged representatives from the Dedham-Westwood Water District. The WRC gave Interbasin Transfer approval to Dedham-Westwood's Fowl Meadow well in July 1992. As a condition, the District was required to shut off the well when streamflow in the Neponset River reached 0.15 cfsm, using the Norwood gage. The well site is 6.3 miles downstream of this gage. Since then, the WRC has also given approval for a well to be developed by Canton in the Neponset River basin. As a condition of their approval, Canton was required to install a gage downstream, near the Fowl Meadow well where there is a potential for cumulative impacts. Canton and USGS identified a potential gage site at the Green Lodge Bridge, near the Fowl

Meadow well. A rating curve was developed by USGS to confirm this. The rating curve indicated that when streamflow at the Norwood gage was 0.15 cfsm, there was considerably more water in cubic feet per square mile at the Green Lodge site. Dedham-Westwood's consultant, Anderson-Nichols, developed a ratio of flow at the Norwood gage to flow from actual streamflow measurements at the Green Lodge site. It was determined that flow at the Green Lodge site is three times that at Norwood. The Dedham-Westwood Water District is proposing to use this ratio to determine when flows at the Green Lodge site are actually at 0.15 cfsm. WRC staff have reviewed this proposal and consulted with USGS, and decided that it was valid. Staff is recommending that Dedham-Westwood be allowed to use this ratio until the Green Lodge gage is installed, at which time they will use Green Lodge to monitor use of well. The shut off trigger will still be 0.15 cfsm. If a USGS gaging station is not installed at the Green Lodge site within two years (May 2002), the ratio method will need to be revisited to determine if it is still appropriate to use. We don't believe that this would require an amendment to their approval because the decision requires shut-off at 0.15 cfsm (for the whole river). The requirements for flow at Milton Lower Falls are unchanged.

O'Donnell asked why the Norwood gage is preferred over the Canton gage. Gartland answered that the Canton gage is not on the main stem. Drury added that they were asked to double check with Canton gage. O'Donnell asked what it cost to install a gage. Gartland answered $10-15,000 to install and $10,000/year to maintain. Clayton asked if there was anything that might happen on the main stem that could significantly change the flow conditions over the next 2-3 years. Drury answered that there is also a requirement that if there is any change in well use, or if any new wells are installed which could directly affect streamflow, the ratio method will need to be revisited to determine if it is still appropriate to use. Gartland added that we also recommended that they continuously check the rating curve to make sure the ratio is still valid. Smith stated that this is a good way to give us some comfort if there are other instances where there is no immediate gage. The WRC should revisit this in 2 years.

Agenda Item 3: Mansfield's Interbasin Transfer Application

Smith announced a slight change to the agenda. The Mansfield Interbasin Transfer Application was scheduled for a vote. However, at the April meeting, there were a number of questions raised by town of Foxborough about the Staff Recommendation. Mansfield has requested an extension so that they can address these questions adequately. Smith recognized Joan Sozio from the town of Foxborough.

VOTE	O'Donnell moved with a second by Clayton that the Water Resources Commission agree to Mansfield's request for an extension without prejudice of the review and decision period for the proposed Morrison Well #10 Interbasin Transfer Application. The vote in favor was unanimous.

Webber stated that Foxborough was asked to put the comments made at the April meeting in writing. Foxborough did this and we are in the process of responding. We will share the letter and response before with the WRC before the next meeting. Sozio stated that Foxborough is ready to submit its final application and would like to get this resolved before submitting it.

Agenda Item 4: Updated Community Water Conservation Plan

Smith stated that this had been reviewed at the last meeting. Levangie said that the intention is to use the revised plan for the Water Management Act, Interbasin Transfer, and any other state review that might need a permit. This will standardize the form. To date only comment received on this plan was from Riverways, suggesting minor changes in wording. Rich asked for more time to review before a vote was taken. He had some questions he wanted to discuss with DEP. Levangie and Smith said it was worth resolving any outstanding issues. The vote was deferred to the next meeting.

Agenda Item 5: Stressed Basins

Gartland distributed a memo summarizing the previous stressed basin meeting. Smith said there has been good broad-based attendance at these meetings. This work is really making people think. We're making good progress. Gartland said that the stressed basin group pursued 3 things:

1. A stressed basin definition
2. An interim method to determine hydrologically stressed subbasins
3. Using stream gage data to develop a preliminary list of stressed basins (or subbasins)

Under the stressed basin definition three issues always came up: aquatic habitat, water quality and water quantity.

The interim method was designed so a consultant could determine if a basin was stressed. Initially, DEM's inflow outflow methodology was used, comparing the results to 7Q10 (7Q10 is a conservative low flow statistic used for wastewater dilution.) If more water is going out of basin than the 7Q10 flow, it could be considered stressed. We also did a comparison of DEM's river basin planning method which used the 1980-81 drought and 95% flow and compared this to inflow and outflow. Twelve basins were considered stressed using 7Q10 versus nine using 95% flow. The subcommittee decided that 7Q10 might be too conservation and decided to use 95% flow for the period of record or looking at things such as distance of well from river or stream.

It was decided previously that use of the stressed basin for permitting may require higher level of review and analysis. For example, under the Interbasin Transfer Act, if the proposal was less than 1 mgd, but located in a stressed subbasin, it would need a full review, rather than a determination of insignificance.

A preliminary list of basins or portions of basins has been developed to determine what is stressed. To do this, 30 gages across the state were looked at to compare flow statistics. The basins were grouped in terms of low, medium and high stress using the Nature Conservancy method, which looks at 32-33 flow statistics (lowest 3 day, 7 day flow etc.) Streamflow was divided by drainage area, in order to compare one to another, to do a relative grouping. This enabled us to identify trends. At the April meeting, a grouping for basins (red, yellow, green) was presented, based on lowest to highest (flow ratings). On average, the lowest group (red) has a flow rating of below 0.35 cfsm for August; yellow is between 0.35 and 0.5 cfsm; green has a rating greater than 0.5 cfsm. The Tennet method was also looked at, but this proved to produce more jumbled results. Use of the other statistics almost always produced same top ten basins.

The group agreed to use a numeric methodology to come up with a preliminary list of stressed basins, with thresholds. This is a first step. Our next meeting will focus on how this will be used and how it could be misused. We want to make sure our method is refined and useable. The data we're producing doesn't say what the stress is. It may be naturally stressed.

O'Donnell suggested using this methodology to determine the ratio of mitigation to withdrawal. In green areas it may be 1:1, so there is no further depletion of streamflow; in yellow basins, it might 2:1; and in red basins, 3:1. It's worth taking time to ensure that if we endorse this methodology, we also endorse its application. O'Donnell and Clayton commended the excellent work that was done by Gartland and her staff on this.

Agenda Item 6: Review of Drought Management Plan

Gartland distributed an outline for the Drought Management Plan. The Drought Task Force met on April 26th to talk about plan. The plan tries to define when we are in a drought and what the responses should be. It discusses the roles of state, local and federal governments and cooperation amongst the various agencies. The plan shows the types of information needed and the responsible party. It outlines communications: who will be talking to whom? It explains drought levels-normal, advisory, watch and emergency and what the response actions are. For example, under normal conditions, DEM collects weather information; DEP encourages communities to adopt local by laws. As the drought deepens, things become more oriented towards safety and working with communities.

The plan discusses how to define drought levels and measurements of drought. We are proposing to use a variety of indices to measure drought. The proposal is to put all the information and indices in one spot- similar to what is done at MEMA, and determine how each relates. (When most of them correspond, that could indicate a certain drought level). This plan looks at cumulative conditions, rather than consecutive. The way a drought will be determined will be based on a majority of drought indices being met for a certain level. This will be determined by DEM and posted on DEM's internet site – at least up to a point, then it may be taken over by the Drought Task Force. Levels will be assigned by region (climate regions), but will also be provided by county because this how the National Weather Service and other agencies declare droughts. Clayton asked why the Drought Task Force would take over, rather than an agency. Gartland stated that the Drought Task Force represents a large group of agencies and people who are specially designated to be functioning as drought experts. Pelczarski said that at a certain level, where we need to be responding to a drought, a wide variety of interagency coordination is needed.

The Task Force is looking at is also working on goals for ending a drought. We are looking at declaring a drought over when there are above normal or near normal conditions or consecutive months at or above normal.

Other Business

- Rich asked about the status of the legislation to certify pump installers. Webber answered that the bill was on hold in the House at DEM's request. If the sponsor wants it to move, he will be referred to DEM to address issues we have with it.

• Drury let the WRC know that the IBT Wastewater Task Force has met twice. We are having good discussions and getting issues out on the table. We will continue to meet and come up with recommendations.

• Webber asked how DEP gets information from the communities about when they declare water emergencies. Levangie said DEP mailed a survey form last year to water suppliers asking communities if they had to implement restrictions and whether or not they did. 60% responded. This year DEP did same. In addition, DEP sent out notices stating that if communities implement mandatory restrictions, they are required to report to DEP and asked that if a community implements voluntary restrictions, they inform DEP as well. Results are still coming in.

Meeting adjourned

Minutes approved 12/14/00